BIBLIOGRAPHY ON GAS CHROMATOGRAPHY

BY CHARLES ZAHN AND STANLEY H. LANGER

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by

Charles Zahn[2] and Stanley H. Langer[3]

INTRODUCTION

Gas chromatography is a method of separating mixtures of gases and volatile materials by entraining their vapors in a gas stream, which passes over an appropriate stationary phase. Two techniques are in common use: Gas-Liquid Chromatography, in which the stationary phase is a liquid supported on an inert solid, and Gas-Solid Chromatography, where the stationary phase is a solid adsorbent, such as charcoal or alumina. In both techniques components emerge from the column after a characteristic residence time. Gas chromatography is applicable as a qualitative or quantitative tool in a wide variety of problems in chemical research and processing. It may also be employed for purification and separation.

A running bibliography on gas chromatography has been maintained at the Bureau of Mines synthetic liquid fuels laboratories, Bruceton, Pa., for several years for the benefit of research workers, who use chromatography as an analytical tool. Since the number of references grew and interest in the technique became more widespread, the Bureau is publishing this list rather than maintain it as a purely internal source.

The bibliography that follows includes 534 references to recent talks, papers, and monographs relating to the theory and use of gas chromatography in the laboratory and the plant. An effort has been made to include material up to December 31, 1957.

The following general principles were followed in compiling this bibliography:

1. Items in trade journals and news reports have been omitted unless they supplied new information.

2. Titles of papers presented at meetings of various organizations have been included because they furnish important information on present workers in the field and the areas under investigation.

3. References to studies on gas-adsorption phenomena have been restricted to those related to the techniques of analysis, separation, and purification.

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4. Some references to papers not primarily devoted to gas chromatography have been included. In these instances the technique has constituted an important part of the investigation.

5. A few classical articles on chromatography have been added for background purposes.

References to abstract journals have been added for the convenience of those who may not have ready access to the original literature.

ACKNOWLEDGMENTS

While preparing this bibliography we also worked on a joint bibliography (to be published elsewhere) with a referee committee from the Instrument Society of America. It is a pleasure to acknowledge the contributions of that group, consisting of Vincent J. Coates, D. H. Desty, Kenneth Hughes, A. I. M. Keulemans, Courtenay Phillips, Donald Rose, and L. W. Safranski. We are also grateful for the bibliographic assistance of Margharet H. Vial and for preparation of the manuscript by Helen C. Douglass.

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Short unsigned articles based on papers presented by the named speakers.

1. For Natural Gas and Gasoline Analysis. (A. J. MILLER).
2. New Developments. (J. R. CORBIN).
3. Role of Column-Packing Materials, Carrier Gases. (D. CARLE).
4. Sample Introduction, Detectors, and Recorders. (P. D. SINGER).
5. Operating Conditions and Techniques. (L. V. GUILD).
6. An Automatic Instrument for Hazardous Areas. (M. L. PARKS).
7. What of the Future? (W. J. PODBIELNIAK and S. T. PRESTON).

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